

1.1 City of Solana Beach

The City of Solana Beach (Solana Beach) reviewed a set of jurisdictional-level hazard maps including detailed critical facility information and localized potential hazard exposure/loss estimates to help identify the top hazards threatening their jurisdiction. In addition, LPGs were supplied with exposure/loss estimates for Solana Beach summarized in Table 5.19-1. See Section 4.0 for additional details.

Table 5.19-1
Summary of Potential Hazard-Related Exposure/Loss in Solana Beach

		Residential		Commercial		Critical Facilities	
Hazard Type	Exposed Population	Number of Residential Buildings	Potential Exposure/ Loss for Residential Buildings (x\$1,000)	Number of Commercial Buildings	Potential Exposure/ Loss for Commercial Buildings (x\$1,000)	Number of Critical Facilities	Potential Exposure for Critical Facilities (x\$1,000)
Coastal Storm / Erosion	78	0	0	0	0	0	0
Sea Level Rise	38	0	0	0	0	0	0
Dam Failure	24	1	282	0	4	0	0
Earthquake (Annualized Loss - Includes shaking, liquefaction and landslide components)	13,547*	6,512*	1,833,128*	322*	1,443,107*	46*	18,005*
Flood (Loss)							
100 Year	404	313	88,110	29	10,004	1	192
500 Year	728	506	142,439	169	54,092	1	192
Rain-Induced Landslide							
High Risk	0	0	0	0	0	0	0
Moderate Risk	0	0	0	0	0	0	0
Tsunami	53	0	0	0	0	0	141
Wildfire / Structure Fire							
Fire Regime II & IV	89,520	29,418	8,281,167	18,919	6,621,123	76	98,700

* Represents best available data at this time.

After reviewing the localized hazard maps and exposure/loss table above, the following hazards were identified by the Solana Beach LPG as their top five. A brief rational for including each of these is included.

- **Coastal Storm/Erosion:** constant and historical
- **Wildfire:** climate and location
- **Earthquake:** proximity to local faults
- **Landslide:** coupled with above and tsunami
- **Tsunami:** proximity to Pacific Ocean
- **Drought:** decreased rainfall in recent years

1.1.1 Capabilities Assessment

The LPG identified current capabilities available for implementing hazard mitigation activities. The Capability Assessment (Assessment) portion of the jurisdictional mitigation plan identifies administrative, technical, legal and fiscal capabilities. This includes a summary of departments and their responsibilities associated to hazard mitigation planning as well as codes, ordinances, and plans already in place associated to hazard mitigation planning. The second part of the Assessment provides Solana Beach's fiscal capabilities that may be applicable to providing financial resources to implement identified mitigation action items.

1.1.2 Existing Institutions, Plans, Policies and Ordinances

The following is a summary of existing departments in Solana Beach and their responsibilities related to hazard mitigation planning and implementation, as well as existing planning documents and regulations related to mitigation efforts within the community. The administrative and technical capabilities of Solana Beach, as shown in Table 5.19-2, provides an identification of the staff, personnel, and department resources available to implement the actions identified in the mitigation section of the Plan. Specific resources reviewed include those involving technical personnel such as planners/engineers with knowledge of land development and land management practices, engineers trained in construction practices related to building and infrastructure, planners and engineers with an understanding of natural or manmade hazards, floodplain managers, surveyors, personnel with GIS skills and scientists familiar with hazards in the community.

Table 5.19-2
City of Solana Beach: Administrative and Technical Capacity

Staff/Personnel Resources	Y/N	Department/Agency and Position
A. Planner(s) or engineer(s) with knowledge of land development and land management practices	Y	Planning and Director of Community Development
B. Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Y	Engineering and City Engineer
C. Planners or Engineer(s) with an understanding of natural and/or manmade hazards	Y	Planning, Engineering, Director of Community Development and City Engineer
D. Floodplain manager	Y	Engineering and City Engineer
E. Surveyors	N	Engineering and City Engineer
F. Staff with education or expertise to assess the community's vulnerability to hazards	Y	Fire Department and Director of Public Safety
G. Personnel skilled in GIS and/or HAZUS	Y	SANDAG
H. Scientists familiar with the hazards of the community	Y	Consultants
I. Emergency manager	Y	Fire Department and Director of Public Safety.
J. Grant writers	Y	City Manager and Management Analyst

The legal and regulatory capabilities of Solana Beach are shown in Table 5.19-3, which presents the existing ordinances and codes that affect the physical or built environment of Solana Beach. Examples of legal and/or regulatory capabilities can include: the City's building codes, zoning ordinances, subdivision ordinances, special purpose ordinances, growth management ordinances, site plan review, general plans, capital improvement plans, economic development plans, emergency response plans, and real estate disclosure plans.

Table 5.19-3
City of Solana Beach: Legal and Regulatory Capability

Regulatory Tools (ordinances, codes, plans)	Local Authority (Y/N)	Does State Prohibit (Y/N)
A. Building code	Y	N
B. Zoning ordinance	Y	N
C. Subdivision ordinance or regulations	Y	N
D. Special purpose ordinances (floodplain management, storm water management, hillside or steep slope ordinances, wildfire ordinances, hazard setback requirements)	Y	N
E. Growth management ordinances (also called "smart growth" or anti-sprawl programs)	Y	N
F. Site plan review requirements	Y	N
G. General or comprehensive plan	Y	N
H. A capital improvements plan	Y	N
I. An economic development plan	Y	N
J. An emergency response plan	Y	N
K. A post-disaster recovery plan	N	N
L. A post-disaster recovery ordinance	N	N
M. Real estate disclosure requirements	Y	N

1.1.3 Fiscal Resources

Table 5.19-4 shows specific financial and budgetary tools available to Solana Beach such as community development block grants; capital improvements project funding; authority to levy taxes for specific purposes; fees for water, sewer, gas, or electric services; impact fees for homebuyers or developers for new development; ability to incur debt through general obligations bonds; and withholding spending in hazard-prone areas.

Table 5.19-4
City of Solana Beach: Fiscal Capability

Financial Resources	Accessible or Eligible to Use (Yes/No)
A. Community Development Block Grants (CDBG)	Y
B. Capital improvements project funding	Y
C. Authority to levy taxes for specific purposes	Y-Vote Required
D. Fees for water, sewer, gas, or electric service	Y
E. Impact fees for homebuyers or developers for new developments/homes	N
F. Incur debt through general obligation bonds	Y
G. Incur debt through special tax and revenue bonds	Y-Vote not required
H. Incur debt through private activity bonds	N
I. Withhold spending in hazard-prone areas	Y

1.1.4 Goals, Objectives and Actions

Listed below are Solana Beach’s specific hazard mitigation goals, objectives and related potential actions. For each goal, one or more objectives have been identified that provide strategies to attain the goal. Where appropriate, the City has identified a range of specific actions to achieve the objective and goal.

The goals and objectives were developed by considering the risk assessment findings, localized hazard identification and loss/exposure estimates, and an analysis of the jurisdiction’s current capabilities assessment. These preliminary goals, objectives and actions were developed to represent a vision of long-term hazard reduction or enhancement of capabilities. To help in further development of these goals and objectives, the LPG compiled and reviewed current jurisdictional sources including the City’s planning documents, codes, and ordinances. In addition, City representatives met with consultant staff and/or OES to specifically discuss these hazard-related goals, objectives and actions as they related to the overall Plan. Representatives of numerous City departments involved in hazard mitigation planning, including Fire, Police, and Public Works provided input to the Solana Beach LPG. The Solana Beach LPG members were:

- Wendé Protzman, Deputy City Manager/Director of Community Development
(no longer with City)
- Bill Chopyk, Director of Community Development **(replacement in 2017)**
- Mo Sammak, City Engineer
- Dismas Abelman, Battalion Chief **(no longer with City)**
- Robbie Ford, Battalion Chief **(replacement in 2017)**

Once developed, City staff submitted the plan to CalOES and FEMA for approval. Once approved City Staff will take the plan to the City Council for adoption.

The draft plan was posted on the Office of Emergency Services Website to present these preliminary goals, objectives and actions to citizens and to receive public input. Specific questions were asked and the public was requested to provide comments and suggestions regarding the draft plan and the proposed mitigation actions. An email address was provided for the public to send comments and suggestions to. This email address was checked daily for public input. The following sections present the hazard-related goals, objectives and actions as prepared by the City of Solana Beach's LPG in conjunction with the Hazard Mitigation Working Group, locally elected officials and local citizens.

1.1.4.1 Goals

The City of Solana Beach has developed the following 8 Goals for their Hazard Mitigation Plan (See Attachment A for Goal 9).

Goal 1. Promote public understanding, support and demand for hazard mitigation.

Goal 2. Improve hazard mitigation coordination and communication with federal, state, local and tribal governments.

“Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and City-owned facilities, due to”:

Goal 3. Coastal Flooding, Erosion, Sea-level Rise, and/or Tsunami

Goal 4. Wildfires

Goal 5. Geological Hazards

Goal 6. Non-coastal Flooding

Goal 7. Drought and Water Shortages

Goal 8. Extreme Heat

1.1.4.2 Objectives and Actions

Alpine Fire Protection District developed the following broad list of objectives and actions to assist in the implementation of each of their 6 identified goals. The District developed objectives to assist in achieving their hazard mitigation goals. For each of these objectives, specific actions were developed that would assist in their implementation. A discussion of the prioritization and implementation of the action items is provided in Section 5.19.5.

Goal 1: Promote public understanding, support and demand for hazard mitigation.		New, Existing or Both
<i>Objective 1.A: Educate the public to increase awareness of hazards and opportunities for mitigation actions.</i>		
Action 1.A.1	Institutionalize hazard mitigation into City's planning efforts.	Both
Action 1.A.2	Hold public workshops to discuss particular hazards and related mitigation measures.	Both

Goal 1: Promote public understanding, support and demand for hazard mitigation.	New, Existing or Both
<i>Objective 1.B: Promote partnerships between the state, counties, local and tribal governments to identify, prioritize, and implement mitigation actions.</i>	
Action 1.B.1 Coordinate with regional efforts to share resources and knowledge.	Both
Action 1.B.2 Streamline policies to eliminate conflicts and duplication of effort.	N/A
<i>Objective 1.C: Promote hazard mitigation in the business community.</i>	
Action 1.C.1 Use business liaison and Chamber of Commerce as conduits for information.	Both
Action 1.C.2 Explore opportunities to work with public/private partnerships.	Both
<i>Objective 1.D: Monitor and publicize the effectiveness of mitigation actions implemented locally.</i>	
Action 1.D.1 Utilize City newsletter, press releases and public meetings.	N/A
Action 1.D.2 Train and review with staff implemented programs as part of regular training.	N/A
<i>Objective 1.E: Discourage activities that exacerbate hazardous conditions.</i>	
Action 1.E.1 Make hazard mitigation part of the planning and approval process.	Both
Action 1.E.2 Stepped up Code Enforcement activities targeting these conditions.	Both

Goal 2: Improve hazard mitigation coordination and communication with federal, state, local and tribal governments.
<i>Objective 2.A: Establish and maintain closer working relationships with state agencies, local and tribal governments.</i>
Action 2.A.1 Maintain partnerships in mitigation and disaster planning.
Action 2.A.2 Explore opportunities for additional funding through cooperative efforts.
<i>Objective 2.B: Encourage other organizations to incorporate hazard mitigation activities.</i>
Action 2.B.1 Work with business and environmental community to understand importance.
<i>Objective 2.C: Improve the City's capability and efficiency at administering pre- and post-disaster mitigation.</i>
Action 2.C.1 Find additional training opportunities for staff.
Action 2.C.2 Establish training schedule for tabletop exercises.
Action 2.C.3 Make this institutional for the staff.
Action 2.C.4 Train multiple staff members for each position in the EOC

Goal 3: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and City-owned facilities, due to <u>coastal flooding, erosion, sea-level rise, and/or tsunami</u>.		
<i>Objective 3.A: Develop a comprehensive approach to reducing the possibility of damage and losses due to coastal flooding, erosion, sea-level rise, and/or tsunami.</i>		
Action 3.A.1	Clear identification of potential flood prone areas.	Both
Action 3.A.2	Clear identification of all streams, rivers, waterways, culverts and natural run-off areas.	Existing
Action 3.A.3	Develop pre-incident action plans for affected areas.	Existing
Action 3.A.4	Continue to explore strategies and opportunities for sand replenishment.	Existing
Action 3.A.5	Finish local coastal plan development to address bluff protection measures.	Existing
Action 3.A.6	Monitor existing protective measures taken to assure their continued effectiveness.	Existing
<i>Objective 3.B: Coordinate with and support existing efforts to mitigate floods (e.g., FEMA, US Army Corps of Engineers, US Bureau of Reclamation, and San Diego County Department of Water Resources).</i>		
Action 3.B.1	Streamline policies to eliminate conflicts and duplication of effort.	N/A
Action 3.B.2	Enforce regulatory measures that ensure any new development within 100-year flood plain will be consistent with FEMA guidelines.	Both
Action 3.B.3	Continue to participate in the National Flood Insurance Program and requirement to review applications for conformance with NFIP standards.	Both
<i>Objective 3.C: Minimize repetitive losses caused by coastal flooding, erosion, sea-level rise, and/or tsunami.</i>		
Action 3.C.1	Restrict ability to re-build without taking mitigation measures to avoid repeats.	New
<i>Objective 3.D: Address identified data limitations regarding the lack of information about relative vulnerability of assets from coastal flooding, erosion, sea-level rise, and/or tsunami.</i>		
Action 3.D.1	Work with regional agencies, (ODP, SanGIS) to accurately map affected areas.	Both
Action 3.D.2	Share and train with acquired information with all city departments and personnel.	N/A
Action 3.D.3	Coordinate with Cities of Del Mar and Encinitas and the Rancho Santa Fe Fire Protection District for joint training opportunities between staffs.	N/A

Goal 4: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and City-owned facilities, due to <u>wildfires/structure fires</u>.		
<i>Objective 4.A: Develop a comprehensive approach to reducing the possibility of damage and losses due to wildfires.</i>		
Action 4.A.1	Annually review and update wildland pre-plans for firefighting forces.	Both
Action 4.A.2	Maximize utilization of outside firefighting equipment and staff resources	Both
Action 4.A.3	Implement Fire Code enhancements for wildland-urban interface	Both
<i>Objective 4.B: Coordinate with and support existing efforts to mitigate wildfire hazards (e.g., County of San Diego & State of California)</i>		

Goal 4: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and City-owned facilities, due to <u>wildfires/structure fires</u>.		
Action 4.B.1	Develop mitigation measures to enhance protection of homes along San Elijo reserve.	Both
Action 4.B.2	Work in conjunction and cooperation with San Elijo Lagoon Conservancy to achieve mitigation efforts.	Both
Action 4.B.3	Coordinate with other agencies to ensure consistency among standards.	Both

Goal 5: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and City-owned facilities, due to <u>geological hazards</u>.		
<i>Objective 5.A: Develop a comprehensive approach to reducing the possibility of damage and losses due to geological hazards.</i>		
Action 5.A.1	Adopt, enforce, and update building code provisions to reduce geological hazard damage risk.	Both
Action 5.A.2	Incorporate structural and non-structural seismic strengthening actions into ongoing building plans and activities in the capital improvement plan to ensure that facilities remain operational for years to come.	Both
Action 5.A.3	Ensure areas of development do not include hazard areas such as ancient landslides, unstable soils, or active fault zones unless mitigated.	New
Action 5.A.4	Monitor existing protective measures to assure continued improvement and effectiveness in addressing the effects of earthquakes on local land mass and infrastructure.	Existing
<i>Objective 5.B: Protect existing assets with the highest relative vulnerability to the effects of geological hazards.</i>		
Action 5.B.1	Offer GIS hazard mapping online for residents and design professionals.	Existing
Action 5.B.2	Explore possibility of developing an inventory of public and commercial buildings that may be particularly vulnerable to earthquake damage, including pre-1940s homes and homes with cripple wall foundations.	Existing
Action 5.B.3	Explore options for conducting seismic retrofitting for critical public facilities most at risk to earthquakes.	Existing
Action 5.B.4	Wherever feasible, land uses and buildings that are determined to be unsafe from geologic hazards shall be mitigated, discontinued, removed, or relocated.	Both

Goal 6: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and City-owned facilities, due to <u>non-coastal flooding</u>.		
<i>Objective 6.A: Develop a comprehensive approach to reducing the possibility of damage and losses due to non-coastal flooding.</i>		
Action 6.A.1	Evaluate new developments to mitigate impacts on floodplain.	New
Action 6.A.2	Review new development to control run-off and minimize expansion of impervious surface areas.	New
<i>Objective 6.B: Protect existing assets with the highest relative vulnerability to the effects of non-coastal flooding.</i>		

Goal 6: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and City-owned facilities, due to <u>non-coastal flooding</u>.		
Action 6.B.1	Maintain routine inspections of Stevens Creek for sedimentation and removal as needed.	Existing
Action 6.B.2	Continue participation in NFIP.	Both

Goal 7: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and City-owned facilities, due to <u>drought and water shortages</u>.		
<i>Objective 7.A: Develop a comprehensive approach to reducing the possibility of damage and losses due to drought and water shortages.</i>		
Action 7.A.1	Remain informed of state legislation regarding drought and water conservation.	Both
Action 7.A.2	Consider establishing communication channels with regional and state agencies regarding drought.	N/A
Action 7.A.3	Advocate to water suppliers for diverse water supply portfolio.	Both
Action 7.A.4	Encourage residents to adopt drought tolerant landscaping or xeriscape practices.	Both
<i>Objective 7.B: Protect existing assets with the highest relative vulnerability to the effects of drought and water shortages.</i>		
Action 7.B.1	Maintain communications regarding infrastructure with Santa Fe Irrigation Water.	Existing
Action 7.B.2	Explore options of public outreach, including providing residents with resources for water efficient plumbing and landscaping.	Both
Action 7.B.3	Implement water efficiency upgrades at municipal buildings, parks and publicly owned facilities.	Existing

Goal 8: Reduce the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and City-owned facilities, due to severe weather, including <u>extreme heat</u>.		
<i>Objective 8.A: Develop a comprehensive approach to reducing the possibility of damage and losses due to extreme heat.</i>		
Action 8.A.1	Explore options of designating cool zones for vulnerable populations.	Both
Action 8.A.2	Explore options for training public safety employees to recognize and treat heat-related illnesses.	N/A
Action 8.A.3	Provide educational materials on severe weather and mitigation strategies on the city website and through all forms of social media.	N/A
<i>Objective 8.B: Protect existing assets with the highest relative vulnerability to the effects of extreme heat and drought.</i>		
Action 8.B.1	Maintain efforts to plant trees in parking lots to increase shading.	Both

1.1.5 Prioritization and Implementation of Action Items

The City of Solana Beach is vulnerable to many different types of hazards. The Wildfires of 2007 threatened the eastern border of the City and the increased threat is reflected in the Plan. Other threats include long-term issues such as bluff erosion and human-caused threats. The complexity of these hazards coupled with the long-term implications resulted in a lower prioritization than wildfire, which is a year round threat that could have an impact on a large portion of the City. The result is the prioritization of the threats to address the most likely, with a desire to mitigate all that face the City. Additionally, the 2010 Plan was incorporated into the City's General Plan to strengthen these mitigation efforts.

Once the comprehensive list of jurisdictional goals, objectives, and action items listed above was developed, the proposed mitigation actions were prioritized. This step resulted in a list of acceptable and realistic actions that address the hazards identified in each jurisdiction. This prioritized list of action items was formed by the LPG weighing STAPLEE criteria.

The Disaster Mitigation Action of 2000 (at 44 CFR Parts 201 and 206) requires the development of an action plan that not only includes prioritized actions but one that includes information on how the prioritized actions will be implemented. Implementation consists of identifying who is responsible for which action, what kind of funding mechanisms and other resources are available or will be pursued, and when the action will be completed.

The prioritized actions below reflect progress in local mitigation efforts as well as changes in development.

The top 10 prioritized mitigation actions as well as an implementation strategy for each are:

Action Item #1: Develop a comprehensive approach to reducing the possibility of damage and losses due to geological hazards. Continue to explore strategies and opportunities for future sand replenishment. Enforce Local Coastal Program (LCP) Land Use Plan (LUP).

Coordinating Individual/Organization: Community Development

Potential Funding Source: General Fund and Grants

Implementation Timeline: On-going

Action Item #2: Protect existing assets with the highest relative vulnerability to the effects of geological hazards. In addition to the enforcement of the LCP LUP, continue efforts to develop other coastal bluff policies to address bluff protection measures. Monitor existing protective measures taken to assure their continued effectiveness.

Coordinating Individual/Organization: Community Development

Potential Funding Source: General Fund, Grants and Private Funding

Implementation Timeline: On-going

Action Item #3: Coordinate with and support existing efforts to mitigate wildfire hazards (e.g., County or San Diego and State of California). Develop mitigation measures to enhance protection of homes along San Elijo Reserve. Work in conjunction and cooperation with San Elijo Lagoon Conservancy to achieve mitigation efforts. Coordinate with other agencies to ensure consistency among standards.

Coordinating Individual/Organization: Fire Department

Potential Funding Source: General Fund and Grants

Implementation Timeline: On-going

Action Item #4: Upgrade to Next Generation Regional Communications System (RCS). The RCS was placed in service in 1998 and is approaching the end of its useful life, after which the County will no longer be able to support and maintain the system. The Next Generation RCS will provide improved communication capabilities.

Coordinating Individual/Organization: City Manager's Office

Potential Funding Source: General Fund

Implementation Timeline: January 2016– January 2018

Action Item #5: Develop a comprehensive approach to reducing the possibility of damage and losses due to other manmade hazards. Coordinate with other agencies on training and planning for terrorist-related activities. Maintain communication links with regards to threat assessments and dissemination of information.

Coordinating Individual/Organization: Fire Department

Potential Funding Source: General Fund and Grants

Implementation Timeline: On-going

Action Item #6: Address identified data limitations regarding the relative vulnerability of assets from floods. Use available information to share and train with inundation maps with all City departments and personnel. Coordinate with the Cities of Del Mar and Encinitas for joint training opportunities between staffs.

Coordinating Individual/Organization: Public Works

Potential Funding Source: General Fund

Implementation Timeline: On-going

Action Item #7: Protect existing assets with the highest relative vulnerability to the effects of other manmade hazards. Evaluate access levels to public facilities and restrict access where necessary. Evaluate infrastructure and facilities for additional security measures as required.

Coordinating Individual/Organization: Deputy City Manager

Potential Funding Source: General Fund and Grants

Implementation Timeline: On-going

Action Item #8: Monitor and publicize the effectiveness of mitigation actions implemented locally. Utilize City newsletter, press releases, and public meetings. Train and review with staff implemented programs as part of regular training.

Coordinating Individual/Organization: Deputy City Manager

Potential Funding Source: General Fund

Implementation Timeline: On-going

Action Item #9: Discourage activities that exacerbate hazardous conditions. Make hazard mitigation part of the planning and approval process. Develop a checklist and inspection follow up in the flood plain, wildland urban interface, and coastal bluff.

Coordinating Individual/Organization: Community Development & Code Enforcement

Potential Funding Source: General Fund

Implementation Timeline: On-going

Action Item #10: Work with the Climate Action Commission to implement policies and programs that promote hazard mitigation measures relevant to the city's most vulnerable assets.

Coordinating Individual/Organization: Fire Department

Potential Funding Source: General Fund and Grants

Implementation Timeline: On-going